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PATENT  
Docket No. 6311.N



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Brian J. STOCKMAN )

Group Art Unit: 1645

Serial No.: 09/829,872 )

Examiner: Unknown

Confirmation No.: 7416 )

Filed: 10 April 2001 )

For: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES  
PAPILLOMAVIRUS E2 PROTEIN

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INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington D.C. 20231

Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 *et. seq.*, the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Consideration of each of the documents listed on the attached 1449 form(s) is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicant further requests that a copy of the 1449 forms, marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

Applicant also wishes to bring the Examiner's attention to the following pending U.S. Applications, as well as any prior art and any provisional U.S. patent applications referenced therein. Copies of the below-listed pending U.S. Patent Applications are provided herewith.

**Information Disclosure Statement**

Page 2 of 3

Applicant(s): Brian J. STOCKMAN

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For: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES IN PAPILLOMAVIRUS E2  
PROTEIN

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**List of Pending Non-Published U.S. Patent Applications**

Applicant(s)	Application Number	Filing Date	Serial No. of Provisional Application to which listed Application claims priority
Stockman et al.	09/677,107	09/29/00	60/156,818, filed 9/29/99; 60/161,682, filed 10/26/99; 60/192,685, filed 3/28/00
Stockman et al.	unassigned (CIP of 09/677,107)	11/19/01	60/156,818, filed 9/29/99; 60/161,682, filed 10/26/99; 60/192,685, filed 3/28/00

It is believed that no fee is due, as this Information Disclosure Statement is filed prior to the receipt of any Action on the merits. However, in the event a fee is due, please charge any fee or credit any overpayment to Account No. 13-4895.

**Information Disclosure Statement**

Page 3 of 3

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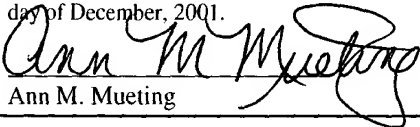
For: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES IN PAPILLOMAVIRUS E2  
PROTEIN

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The Examiner is invited to contact Applicant's Representatives at the below-listed telephone number, if they can be of any assistance during prosecution of the present application.

**CERTIFICATE UNDER 37 C.F.R. 1.8:**

The undersigned hereby certifies that this paper is being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 28th day of December, 2001.

  
Ann M. Mueeting

December 28, 2001

Date

Respectfully submitted for

Brian J. Stockman

By

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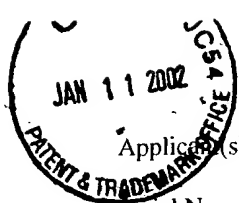
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Brian J. STOCKMAN

Group Art Unit: 1645

Serial No.: 09/829,872

Examiner: Unknown

Confirmation No.: 7416

Docket No.: 6311.N  
(M&R 268.6311 0101)

Filed: 10 April 2001

Title: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES IN  
PAPILLOMAVIRUS E2 PROTEIN

Assistant Commissioner for Patents  
Washington, D.C. 20231

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

- ☒ An itemized return postcard.  
☐ A Petition for Extension of Time for \_\_\_ month(s) and a check in the amount of \$\_\_\_ for the required fee.  
☒ An Information Disclosure Statement (3 pgs); copies of 2 applications; 1449 forms (11 pgs); and copies of 129 documents cited on the 1449 forms.  
☐ A check in the amount of \$\_\_\_, for \_\_\_\_.  
☐ A certified copy of a \_\_\_ application, Serial No. \_\_, filed \_\_\_\_\_, the right of priority of which is claimed under 35 U.S.C. §119.  
☐ Other:  
☐ Amendment \_\_\_ No Additional fee is required. \_\_\_ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$18 =	
Independent Claims				x \$84 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$280 Here →					
Total Additional Claim Fees Required					

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

**CERTIFICATE UNDER 37 C.F.R. §1.8:** The undersigned hereby certifies that this Transmittal Letter and the paper(s), as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 28<sup>th</sup> day of December, 2001.

MUETING, RAASCH & GEBHARDT, P.A.

Customer Number: 26813

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Ann M. Mueeting  
Reg. No.: 33,977  
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Facsimile: 612-305-1228

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**U.S. PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	4,719,582	01/12/88	Ishida et al.			
	5,270,163	12/14/93	Gold et al.			
	5,306,619	04/26/94	Edwards et al.			
	5,668,734	09/16/97	Krishna et al.			
	5,698,401	12/16/97	Fesik et al.			
	5,804,390	09/08/98	Fesik et al.			
	5,837,460	11/17/98	Von Feldt et al.			
	5,856,496	01/05/99	Fagnola et al.			
	5,891,643	04/06/99	Fesik et al.			
	5,989,827	11/23/99	Fesik et al.			
	6,043,024	03/28/00	Fesik et al.			
	6,214,561	04/10/01	Peters et al.			

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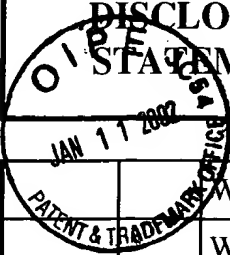
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**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	DE 196 49 359 C1	02/12/98	Germany (with English language abstract)				X
	EP 0 592 816 A1, B1	04/20/94	EPO (with English language abstract)				X
	GB 2 316 941 A	03/11/98	United Kingdom				
	GB 2 321 104 A	07/15/98	United Kingdom				
	WO 91/10140	07/11/91	WIPO				
	WO 91/17428	11/14/91	WIPO				
	WO 93/00446	01/07/93	WIPO				
	WO 94/14980	07/07/94	WIPO				
	WO 96/30849	10/03/96	WIPO				

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**Date Considered**

\*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

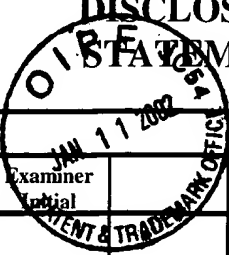
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	WO 96/30849	10/03/96	WIPO					
	WO 97/00244	01/03/97	WIPO					
	WO 97/18469	05/22/97	WIPO					
	WO 97/18471	05/22/97	WIPO					
	WO 98/46548	10/22/98	WIPO					
	WO 98/48264	10/29/98	WIPO					
	WO 98/57155	12/17/98	WIPO					
	WO 99/09024	02/25/99	WIPO					
	WO 99/17616	04/15/99	WIPO					
	WO 99/36422	07/22/99	WIPO					
	WO 99/43643	09/02/99	WIPO					

### OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

Examiner Initial	Document Description
	Ajay et al., "Can We Learn To Distinguish between "Drug-like" and "Nondrug-like" Molecules?" <i>Journal of Medicinal Chemistry</i> , 41(18):3314-3324 (1998).
	Anderson et al., "Affinity NMR: Decoding DNA Binding," <i>Journal of Combinatorial Chemistry</i> , 1(1):69-72 (1999).
	Balaram et al., "Localization of Tyrosine at the Binding Site of Neurophysin II by Negative Nuclear Overhauser Effects," <i>Journal of the American Chemical Society</i> , 94(11): 4017-4018 (1972).
	Barjat et al., "High-Resolution Diffusion-Ordered 2D Spectroscopy (HR-DOSY) - A New Tool for the Analysis of Complex Mixtures," <i>Journal of Magnetic Resonance, Series B</i> , 108:170-172 (1995).
	Bax et al., "Sensitivity-Enhanced Two-Dimensional Heteronuclear Shift Correlation NMR Spectroscopy," <i>Journal of Magnetic Resonance</i> , 67:565-569 (1986).
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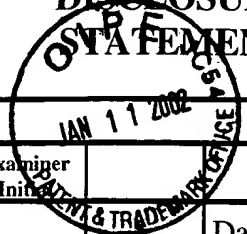
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	Bemis et al., "The Properties of Known Drugs. 1. Molecular Frameworks," <i>Journal of Medicinal Chemistry</i> , 39(15):2887-2893 (1996).
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	Bleicher et al., "Diffusion Edited NMR: Screening Compound Mixtures by Affinity NMR to Detect Binding Ligands to Vancomycin," <i>Journal of Organic Chemistry</i> , 63(23):8486-8490 (1998).
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	Bruker Efficient Sample Transfer NMR [online]. Bruker Analytik GmbH, Rheinstetten, Germany, 1998 [retrieved on 2000-10-25]. Retrieved from the Internet: <URL: http://www.bruker.de/analytic/nmr-dep/best/best.htm>, 2 pages.
	Bussiere et al., "Structure of the E2 DNA-Binding Domain from Human Papillomavirus Serotype 31 at 2.4 Å," <i>Acta Crystallographica</i> , D54(Part 6, No. 2):1367-1376 (1998).
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Examiner Initials	Document Description
	Dalvit et al., "Identification of compounds with binding affinity to proteins via magnetization transfer from bulk water," <i>Journal of Biomolecular NMR</i> , 18(1):65-68 (2000).
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	Detlefsen et al., "Molecular Flexibility Profiling Using NMR Spectroscopy," <i>Current Medicinal Chemistry</i> , 6(5):353-358 (1999).
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	Farmer II et al., "Localizing the NADP <sup>+</sup> binding site on the MurB enzyme by NMR," <i>Nature Structural Biology</i> , 3(12):995-997 (1996).
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	Fejzo et al., "The SHAPES Strategy: An NMR Based Approach for Lead Generation in Drug Discovery," Abstract MIIA-4, <i>Proceedings of the 18<sup>th</sup> International Conference on Magnetic Resonance in Biological Systems</i> , Tokyo Metropolitan University, Tokyo, Japan, 3 pages (August 23-28, 1998).
	Fejzo et al., "The SHAPES strategy: an NMR-based approach for lead generation in drug discovery," <i>Chemistry &amp; Biology</i> , 6(10):755-769 (1999).
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	Freeman et al., "Proton-detected $^{15}\text{N}$ NMR spectroscopy and imaging," EPO abstract, XP 002029543, from <i>Journal of Magnetic Resonance, Series B</i> , 102(2):183-192, 1 page (1993).
	Freeman et al., "Proton-Detected $^{15}\text{N}$ NMR Spectroscopy and Imaging," <i>Journal of Magnetic Resonance, Series B</i> , 102(2):183-192 (1993).
	Ghose et al., "A Knowledge-Based Approach in Designing Combinatorial or Medicinal Chemistry Libraries for Drug Discovery. 1. A Qualitative and Quantitative Characterization of Known Drug Databases," <i>Journal of Combinatorial Chemistry</i> , 1(1):55-68 (1999).
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	Grzesiek et al., "The Importance of Not Saturating $\text{H}_2\text{O}$ in Protein NMR. Application to Sensitivity Enhancement and NOE Measurements," <i>Journal of the American Chemical Society</i> , 115(26):12593-12594 (1993).
	Hajduk et al., "One Dimensional Relaxation- and Diffusion-Edited NMR Methods for Screening Compounds That Bind to Macromolecules," <i>Journal of the American Chemical Society</i> , 119(50):12257-12261 (1997).
	Hajduk et al., "High-Throughput Nuclear Magnetic Resonance-Based Screening," <i>Journal of Medicinal Chemistry</i> , 42(13):2315-2317 (1999).
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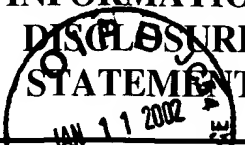
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	Holmes et al., "Development of a model for classification of toxin-induced lesions using <sup>1</sup> H NMR spectroscopy of urine combined with pattern recognition," <i>NMR in Biomedicine</i> , 11(4-5):235-244 (1998).
	Kasukawa et al., "A Fifteen-Amino-Acid Peptide Inhibits Human Papillomavirus E1-E2 Interaction and Human Papillomavirus DNA Replication In Vitro," <i>Journal of Virology</i> , 72(10):8166-8173 (1998).
	Keifer, "High-resolution NMR techniques for solid-phase synthesis and combinatorial chemistry," <i>Drug Discovery Today</i> , 2(11):468-478 (1997).
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	Liepinsh et al., "Organic solvents identify specific ligand binding sites on protein surfaces," <i>Nature Biotechnology</i> , 15(3):264-268 (1997).
	Lin et al., "Diffusion-Edited NMR-Affinity NMR for Direct Observation of Molecular Interactions," <i>Journal of the American Chemical Society</i> , 119(22):5249-5250 (1997).

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	Lin et al., "Screening Mixtures by Affinity NMR," <i>Journal of Organic Chemistry</i> , 62(25):8930-8931 (1997).
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	Liu et al., "High-Resolution Diffusion and Relaxation Edited One- and Two-Dimensional <sup>1</sup> H NMR Spectroscopy of Biological Fluids," <i>Analytical Chemistry</i> , 68(19):3370-3376 (1996).
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Examiner  
Initial

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## Document Description

Morris et al., "Resolution of Discrete and Continuous Molecular Size Distributions by Means of Diffusion-Ordered 2D NMR Spectroscopy," *Journal of the American Chemical Society*, 115(10):4291-4299 (1993).

Neri et al., "<sup>1</sup>H, <sup>13</sup>C and <sup>15</sup>N backbone assignments of cyclophilin when bound to cyclosporin A (CsA) and preliminary structural characterization of the CsA binding site," *FEBS Letters*, 294(1,2):81-88 (1991).

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Pearlman et al., "Novel Software Tools for Chemical Diversity," *Perspectives in Drug Discovery and Design*, 09/10/11:339-353 (1998).

Phelps et al., "Molecular targets for human papillomaviruses: prospects for antiviral therapy," *Antiviral Chemistry & Chemotherapy*, 9(5):359-377 (1998).

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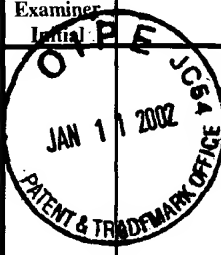
<b>INFORMATION DISCLOSURE STATEMENT</b>	Atty. Docket No.: 6311.N	Serial No.: 09/829,872
	Applicant(s): Brian J. STOCKMAN	Confirmation No.: 7416
	Filing Date: 10 April 2001	Group: 1645

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